

COURTSHIP DISPLAY IN A BORNEAN FROG

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Abstract.—An extraordinary courtship display by a ranid frog, *Staurois parvus*, was observed above a waterfall on a lowland forest river in Brunei, North Borneo, in August 1981. The display consisted of kicking out one of the hind limbs revealing the pale blue webbing of the foot which contrasted strongly with the frog's buff and olive dorsal coloration. The display was filmed and a print of a complete 42-frame sequence is reproduced in this paper.

During July and August 1981, I was a member of a British Broadcasting Corporation (BBC) Natural History Unit expedition to southeast Asia to film forest species for a television series. The expedition camped at Labi, an area of lowland forest on the Rampayoh River, Brunei, North Borneo from 1 to 5 August. The river at this site was about 15 m wide and there was a waterfall about 5 m high (Fig. 1).

On the evenings of 2 and 3 August, several small frogs (approx. 3 cm SV), later identified as *Staurois parvus* Inger and Haile, were observed on the rock surrounding the waterfall and a shrill chirping call was heard. At about 0800 hr on 4 August, Adrian Warren drew my attention to a single frog on a ledge above the waterfall (Fig. 2). The frog slowly and deliberately kicked out its right hind leg exposing the pale blue webbing of the foot, which contrasted strongly with



Fig. 1.—Waterfall on Rampayoh River, Brunei where frog courtship was observed. Exact spot (Fig. 2) arrowed.



Fig. 2.—Rock ledge above waterfall with ♂ *Staurois parvus* (arrowed) about to display.

its buff and olive dorsal coloration and with the immediate habitat. This striking display was clearly visible from the opposite bank of the river as a sudden flash of blue. The display was repeated several times and later the same frog was observed in amplexus with a larger (approx. 4 cm SV) female. The pair was then lost from view in the surrounding vegetation. No calling was heard during the display.

This behavior was filmed by Rodger Jackman with a Bolex EL 16 mm camera on Eastmancolor 7247 negative film. A 42-frame sequence has been reproduced from a positive rush print (Fig. 3) in strips of 7 frames (the first frame in each strip being numbered for clarity). The film was shot at standard television speed (25 frames/second).

The display reported here represents an undescribed form of anuran courtship behavior. It is possible that other Bornean frogs display in a similar manner as several species have brightly colored webbing (Inger, personal communication). Future observations may complete the life-histories of these little-known Bornean species.

Acknowledgments

Julian Dring and Alice Grandison of the British Museum (Natural History) kindly identified the frog. I am most grateful to Adrian Warren of the BBC Natural History Unit for inviting me to join the expedition and for reading the manuscript, and to Richard Brock, Executive Producer of "Planet Earth", for permission to publish this paper. Robert F. Inger of the Field Museum of Natural History, Chicago, kindly commented on the photographic material.

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Fig. 3.—Courtship display of *Stauroides parvus* (see text) a. frames 1–21; b. frames 22–42.

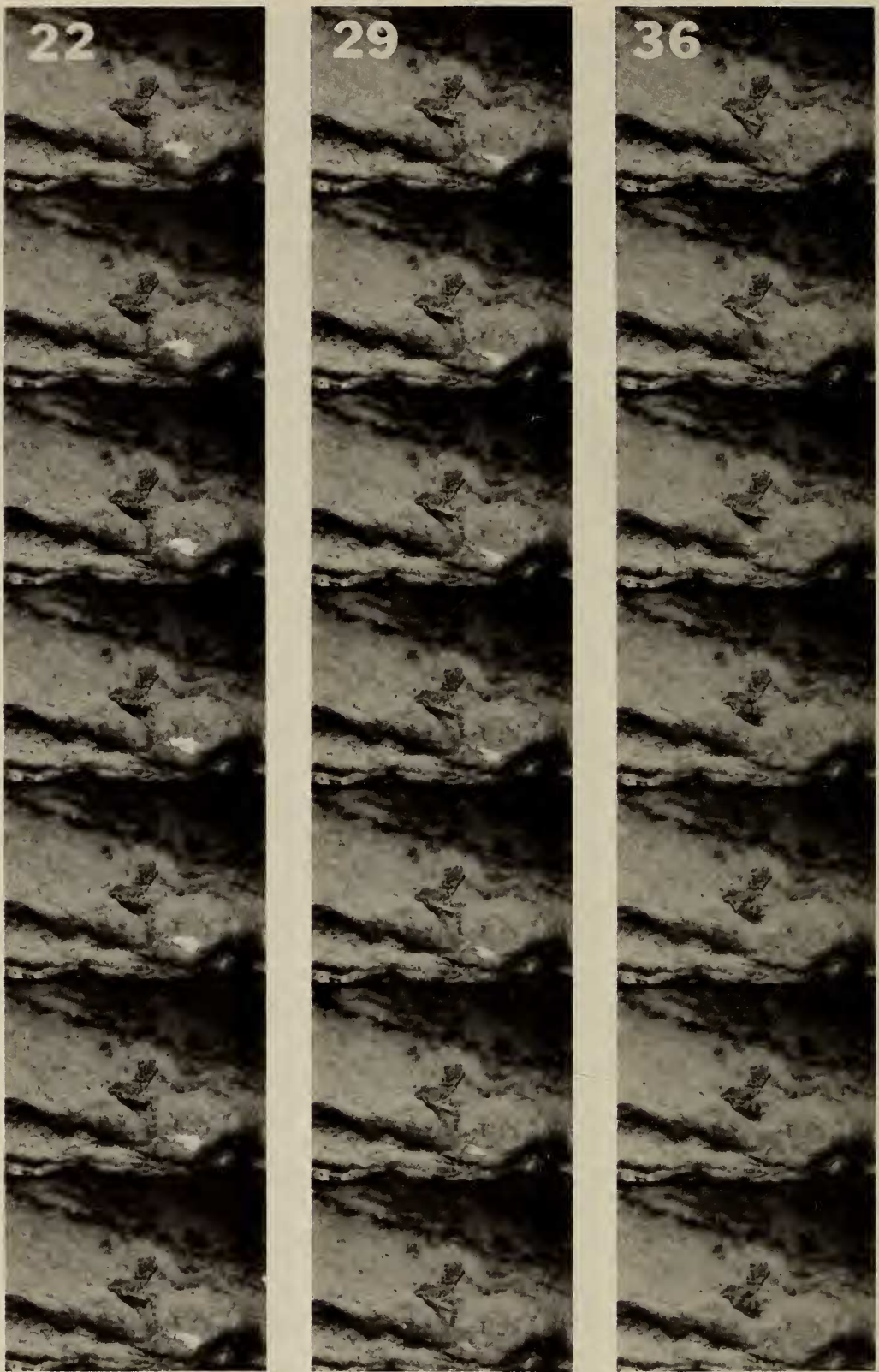


Fig. 3b.